RMT
Integrated
Environmental
Solutions

2025 E. Beltline Ave. SE, Suite 402
Grand Rapids, MI 49546
Telephone: 616-975-5415
Fax: 616-975-1098
www.rmtinc.com

May 8, 2006

Via Overnight Delivery

Mr. Anthony Cinque
Case Manager
New Jersey Department of Environmental Protection
Bureau of Federal Case Management
Division of Responsible Site Party Remediation
CN028
Trenton, NJ 08625

Subject: **L.E. CARPENTER & COMPANY, WHARTON, NEW JERSEY, NJD002168748**
Response to New Jersey Department of Environmental Protection's Comments dated February 22, 2006

Dear Mr. Cinque:

This letter addresses the New Jersey Department of Environmental Protection (NJDEP) February 22, 2006 comments on the Post Remedial Monitoring Plan (PRMP) dated October 14, 2005. RMT, Inc. (RMT) prepared the PRMP and this response to comments letter on behalf of L.E. Carpenter & Company (LEC).

I. RESPONSE TO REGULATORY REVIEW OF THE POST REMEDIAL MONITORING PLAN

Responses to NJDEP's comment letter received by LEC on February 22, 2006 (Appendix B) are presented in the following sections. Please note that although the responses presented below sequentially address the comments raised in the February 22, 2006 NJDEP letter, they also address again many of the general and specific comments raised in the NJDEP letter dated December 22, 2005, regarding the 3rd Quarter 2005 (3Q05) Monitoring Report.

1. General Comments

– LEC has completed the soil vapor intrusion evaluation, details of which are provided in a separate report. However, the soil gas data has been used to assist in interpretation of the total benzene, toluene, ethylbenzene, and xylenes (BTEX) isoconcentration contours presented in the 1st Quarter 2006 (1Q06) Monitoring Report, and a summary diagram is also included as an attachment to this letter (Figure 1). Distribution of both soil gas and groundwater concentrations show that the extent of residual contamination is limited to a small area that does not extend beyond the LEC property.

- LEC will install the proposed MW-19 -12 during the same mobilization as the construction of the new Post-Remedial monitoring well network, tentatively scheduled to take place the week of May 15, 2006.

- New Jersey Department of Environmental Protection is correct in stating that groundwater contamination remains in the near vicinity of monitoring wells MW-19 and MW-19-5, as shown by the groundwater isoconcentration contours on Figure 1. However, based on current and historical data its persistence is a function of very localized residual soil contamination that appears to exist predominantly in the area between MW-19 and MW-19-5. Residual soil contamination in this area is evidenced by data contained in the 1995 and 1996 Roy F. Weston quarterly progress reports that document historical soil removal and post excavation soil sampling activities completed in the MW-19/Hot Spot 1 area. Total BTEX trend data for MW-19 (Appendix A) along with the area of previous contaminated soil removal (Figure 1) show that MW-19 is located on the west (upgradient) edge of the area most likely to contain residual vadose zone contamination because overall concentrations have steadily declined at the MW-19 monitoring location over time (note that the downward trend is superimposed on top of concentration "spikes" caused by seasonal infiltration events and groundwater level changes). The United States Environmental Protection Agency (USEPA) comment that *"Underground Storage Tanks (USTs) in the MW-19 area were removed 15 years ago, yet significant impacts to groundwater are ongoing"* should be tempered by the downward concentration trend data for MW-19. In addition, we question the use of the term "significant" in this case because all available data continue to show that the residual contamination in groundwater does not migrate off-site, predominantly due to equilibrium conditions that likely exist as a function of natural-attenuation (see additional discussions presented in the 1Q06 report regarding natural attenuation parameters). The trend chart for MW-19-5 shows that this well is likely located within or just downgradient from residual soil contamination because there is no obvious downward trend in total BTEX concentrations at this monitoring location. Groundwater level data suggest that the upward "spikes" of total BTEX are related to seasonal infiltration events and subsequent water table fluctuations.

  RMT has used oil-water interface probes in the most contaminated monitoring wells within the MW-19/Hot Spot 1 area (*e.g.*, MW-19, MW-19-5, and MW-19-7) and has never detected product in any well. In addition, groundwater monitoring results show that all individual BTEX concentrations are lower than each parameters solubility limit (see Table 2 in the 1Q06 Monitoring Report). For example, the solubility limit for toluene is 515,000 ®g/L but the highest historical concentration ever detected in any of the MW-19 Area wells is 140,000 ®g/L, which was detected both in MW-19 and MW-19-5. Currently

(Ref. the 1Q06 Monitoring Report), the highest toluene concentration is 28,000 ◎g/L in MW-19.

In summary, the lack of free-phase LNAPL liquids in the MW-19 area, detectable concentrations that are all lower than solubility limits, and downward concentration trends all indicate that it is not currently necessary to pursue active remediation of the MW-19/Hot Spot 1 Area at this time.

- On behalf of LEC, RMT will edit the PRMP based on 1) modifications proposed in the fourth quarter of 2005 (4Q05) Monitoring Report, 2) requests made in the February 22, 2006 NJDEP comment letter, and 3) other relevant information contained in project communications. Revised portions of the PRMP will then be resubmitted to both NJDEP and USEPA. Modifications to the existing PRMP will include:
  - Addition of two surface water monitoring locations [SW-R-5 and SW-R-6]
  - Elimination of proposed field filtering for groundwater samples collected for metals analysis

2. **Specific Comments**

- Surface water sampling and analysis will be conducted quarterly at the five locations SW-R1, SW-R2, SW-R3, SW-R4, and SW-R6 [in accordance with NJDEP's letter dated December 22, 2005; Specific Comment No. 2] along the Rockaway River, the one location SW-R5 located in the Washington Forge Pond, and the three locations SW-D1, SW-D2, and SW-D3 located along the drainage ditch (Ref. Figure 2 and Table 5 in the 1Q06 Monitoring Report), starting 1Q06. Surface water elevation measurements will be collected at the new six monitoring locations SW-R1, SW-R2, SW-R3, SW-R4, SW-R5, and SW-R6 once they are professionally surveyed during PRMP implementation activities. Until that time, surface water elevation measurements will be collected from exiting locations SG-R1 and SG-R2. Once PRMP implementation has occurred and surveying of all locations is complete, existing location SG-R1 will be replaced by SW-R5. Existing location SG-R2 will continue to be evaluated for surface water elevation ONLY on a quarterly basis.
- Based on the current facts known about groundwater flow and hydraulic potentials, the ditch and the river will continue to act as the main receptors for groundwater flowing in the vicinity of the source reduction cement-bentonite slurry monolith. As part of the proposed effort in the PRMP, RMT will be evaluating the flow direction details once the network has been installed, developed, surveyed, sampled, and tested. Because of the potential for minor amounts of groundwater to be perched on top of the monolith, well nests were proposed in the PRMP. In order to evaluate the effects, if any, that potential

perched water may have on the localized shallow flow dynamics, the perched (shallow) wells along with the intermediate-depth wells (to be screened with 5-foot screens that straddle the lower contact of the monolith) must be allowed to equilibrate in order to provide valid data for use in determining groundwater flow direction. In addition, the wells proposed in the PRMP are considered the minimum number of wells for accurately determining changes in localized groundwater flow patterns and performing long-term monitoring of the remediated source area. Thus, data obtained from the proposed monitoring network may need to be augmented in the future, or they may prove sufficient for the purposes of long-term monitoring.

This site has long shown that localized changes in flow patterns occur on a seasonal basis. Installation of three initial wells with a one-time pre-development reading of elevations is at worse more likely to produce erroneous data points, and at best produce data points that do not remain consistent over the year due to the expected seasonal variations. Therefore, pre-installation of three initial wells would not provide enough data to justify moving the location of any well currently proposed in the PRMP, as there is no question regarding the receptors as mentioned above. It would, however, result in a substantial increased cost without any real benefit. Due to the rough subsurface geology, LEC has limited drilling options. LEC has proposed to use the sonic drilling technology to ensure the monitoring wells are installed in a timely manner and adequate soils/sediments are recovered for logging. This method was determined to be the most effective drilling option during installation of the pre-construction borings [December 2004] prior to initiation of source reduction remedial activities. However, utilization of this methodology in the field is costly ($10,000 per mobilization event). Subsequently, multiple mobilizations to concur with the NJDEP's request to first install three wells, determine groundwater flow, and then install the remaining wells is not only considered cost prohibitive, but overly conservative given RMT's current knowledge of site specific hydrogeology. Subsequently, we request approval to implement the PRMP in it's entirety with the understanding that if data gaps exist following PRMP implementation and data evaluation, work plans to fill these data gaps will be prepared and submitted for NJDEP and USEPA review and implemented in the field following written approval.

The main question remaining with respect to the monolith's effect on local flow patterns pertains to the area between the monolith and the Rockaway River. Prior to the source reduction, the area of free product created a localized depression on the water table. The depression was a result of the mass of free product that resided atop the water table, which may have been a major reason why a portion of the river is a losing stream along the southern LEC property boundary. Because the free product has been removed and replaced with a cement-bentonite slurry monolith, we anticipate that some localized

groundwater mounding may occur, and therefore, the wells currently existing between the monolith and the river may be included in the final long-term monitoring network (they may become downgradient monitoring points). Regardless of potential localized mounding, the river and the ditch remain the principal regional and site-specific groundwater discharge points, which means that groundwater flow will remain influent to these surface water features.

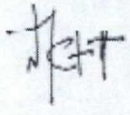
- Monitored natural attenuation (MNA) as a remediation strategy for the site was proposed in the *Work Plan for Supplemental Investigation of Natural Attenuation of Dissolved Constituents in Groundwater* (RMT, May 2001) ("the MNA Work Plan"), and RMT's October 23, 2001 responses to the NJDEP comments dated August 23, 2001, regarding the MNA Work plan. The MNA Work Plan was approved on January 24, 2002, in a letter from the NJDEP. Then, as a result of the modifications made to the LEC site monitoring well network as part of the source reduction activities, revisions were made to the monitoring program and submitted to NJDEP on January 13, 2005. Since the source reduction remedial project is complete, a new monitoring well network with associated monitoring program was proposed in the Post Remedial Monitoring Plan as a condition of RAWP approval. Therefore, no additional proposal needs to be submitted for the MNA remedy. Once the new monitoring well network has been installed, and data from sampling the new well network has been evaluated, proposals to advance the remedial viability for MNA will be presented to both NJDEP and USEPA for consideration. Items for proposal and discussion may include:
  - Potential need for additional monitoring well locations.
  - Potential addition of more surface monitoring locations.
  - Advanced modeling (*i.e.,* flow and fate and transport).

Due to the thickness of the cement-bentonite slurry monolith, the new monitoring wells are proposed to be installed using 5-foot screens. This will insure that the top and the bottom of the monolith are monitored separately and that no one particular well screen will intersect both the top and bottom of the monolith. According to Section 6.9.2.2.5.1 "Pump Intake Location" of the *NJDEP Field Sampling Procedures Manual* dated August 2005, pump intake depth is particularly important in wells constructed with more than 5 feet of well screen. The pump intake depth for sampling will be determined by taking in to consideration soil type vertical distribution, evidence of soil/sediment contamination, and static water level elevations. As such, no profile sampling is warranted both from a technical standpoint as well as existing NJDEP guidance.

We trust these responses adequately address NJDEP and EPA concerns. We request that any additional discussions related to these matters be discussed during a conference call as the drilling and well installations are set to begin soon, during the week of May 15, 2006.

Sincerely,

RMT, Inc.



Nicholas J. Clevett
Senior Project Manager

Attachments: Figure 1
Appendix A – Trend Charts

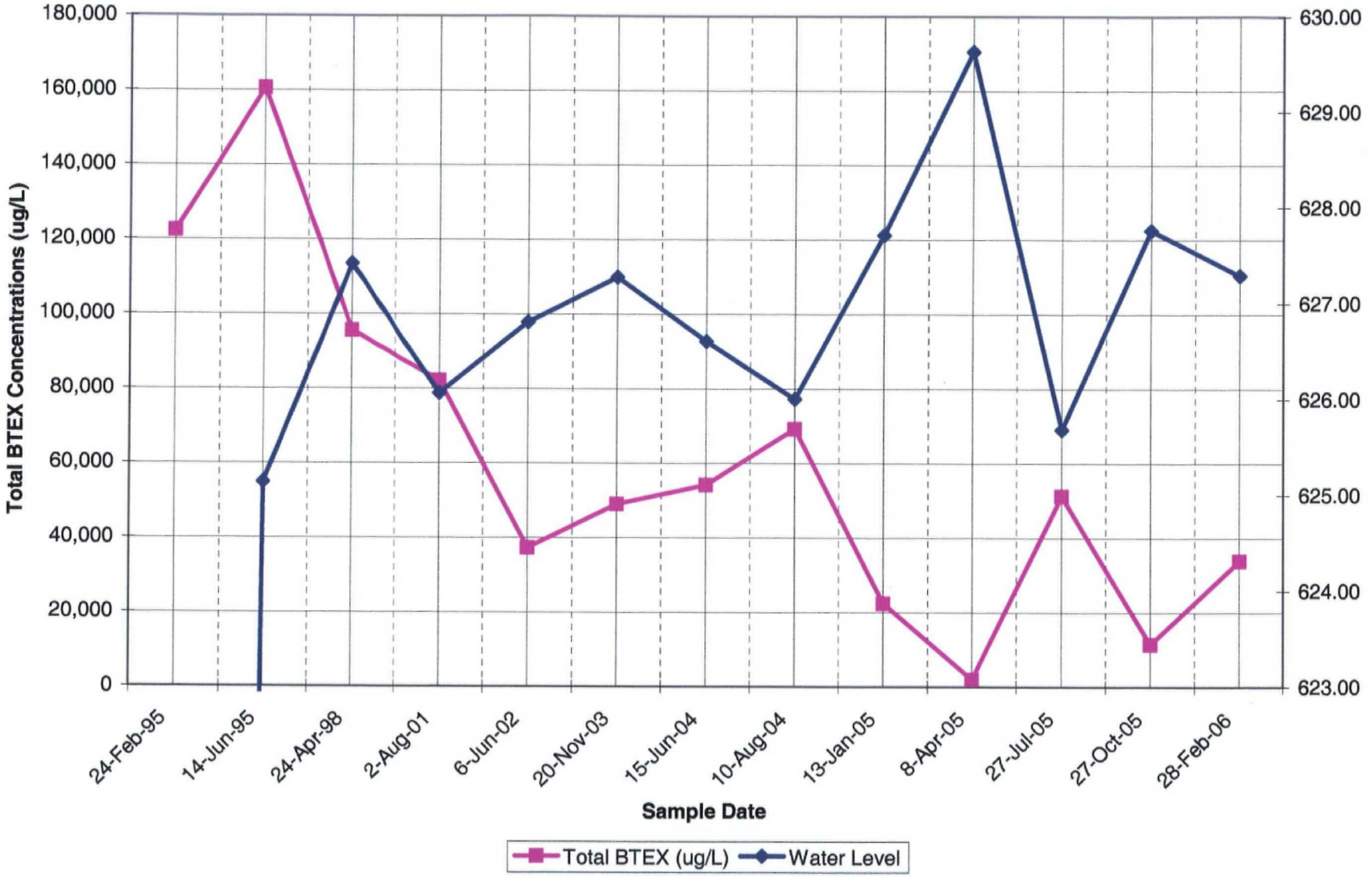
cc: Stephen Cipot, USEPA
Cris Anderson, LEC
Jim Dexter, RMT

MW-19	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX (ug/L)	Water Level	DO
24-Feb-95	660	1,700	110,000	10,000	122,360	- -	- -
14-Jun-95	150	3,400	140,000	17,000	160,550	625.13	- -
24-Apr-98	1,000	2,850	76,700	14,900	95,450	627.41	- -
2-Aug-01	95	3,000	62,000	17,000	82,095	626.06	- -
6-Jun-02	200	1,000	30,000	6,000	37,200	626.80	- -
20-Nov-03	20	1,500	40,000	7,400	48,920	627.27	- -
15-Jun-04	100	1,400	46,000	6,600	54,100	626.60	10.97
10-Aug-04	20	2,100	56,000	11,000	69,120	626.00	0.1
13-Jan-05	10	750	18,000	3,600	22,360	627.71	0.2
8-Apr-05	1	97	1,300	530	1,928	629.63	1
27-Jul-05	40.0	1,100	44,000	6,000	51,140	625.68	1
27-Oct-05	20.0	200	10,000	1,200	11,420	627.76	5.34
28-Feb-06	50.0	880	28,000	4,900	33,830	627.29	3.53

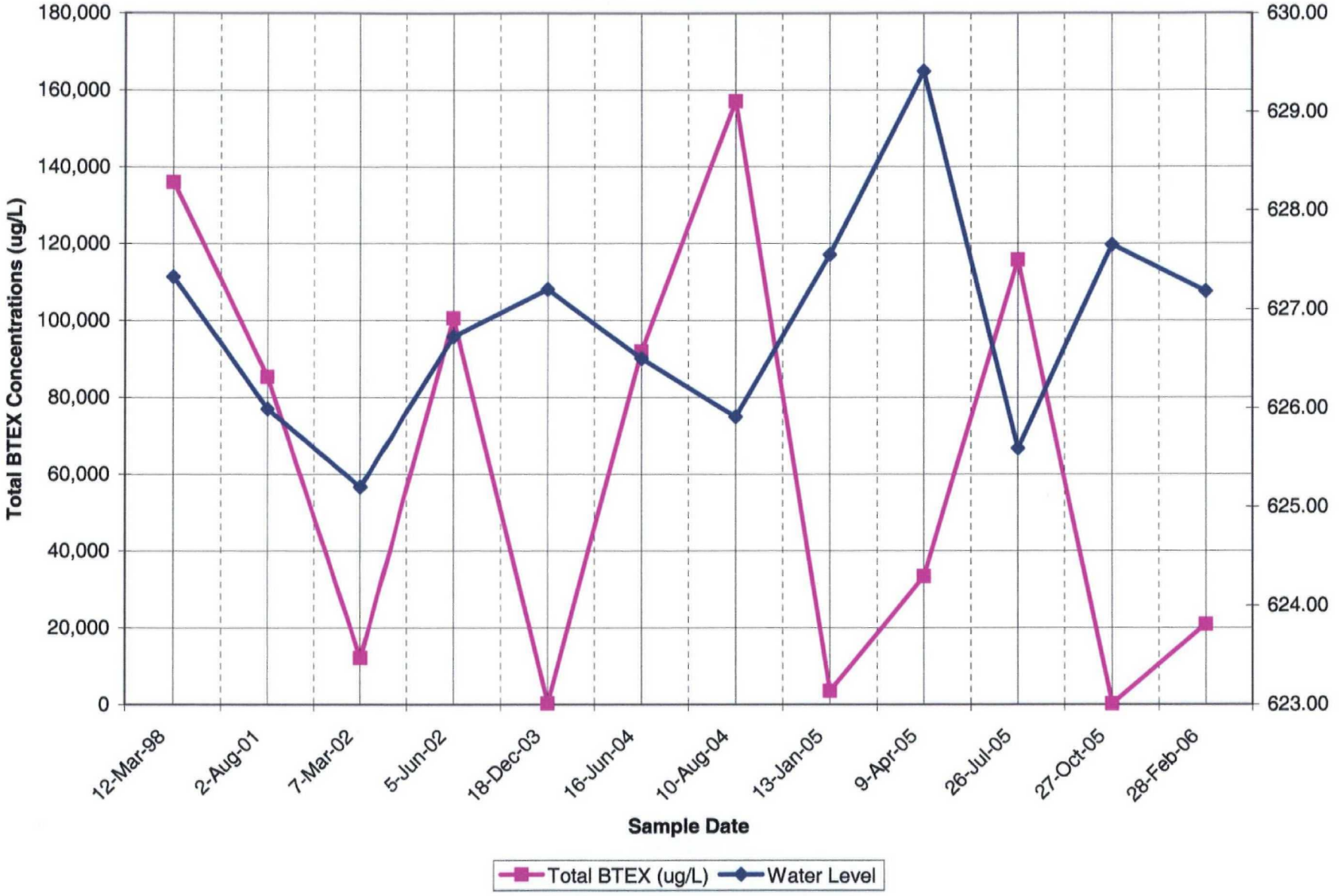
MW-19-5	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX (ug/L)	Water Level	DO
12-Mar-98	1,000	1,920	123,000	10,100	136,020	627.33	- -
2-Aug-01	190	870	79,000	5,200	85,260	625.99	- -
7-Mar-02	140	300	10,000	1,700	12,140	625.20	- -
5-Jun-02	1,100	1,100	92,000	6,300	100,500	626.72	- -
18-Dec-03	0.2	3.7	240.0	24.0	268	627.20	- -
16-Jun-04	100.0	1,400	83,000	7,400	91,900	626.50	10.16
10-Aug-04	200.0	2,800	140,000	14,000	157,000	625.91	1
13-Jan-05	2.0	64.0	3,100.0	340.0	3,506	627.55	1
9-Apr-05	40.0	1,000.0	27,000.0	5,300.0	33,340	629.41	1
26-Jul-05	100.0	2,600.0	100,000.0	13,000.0	115,700	625.59	0.8
27-Oct-05	0.2	6.8	140.0	37.0	184	627.65	1.84
28-Feb-06	20.0	290.0	19,000.0	1,500.0	20,810	627.18	3.35

MW-19-7	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX (ug/L)	Water Level	DO
15-Nov-99	16	100	51	1,400	1,567	626.05	- -
1-Aug-01	6.7	6.6	13	680	706	626.00	- -
7-Mar-02	3	1.3	1.3	250	256	625.12	- -
5-Jun-02	0.48	1.6	27	27	56	626.70	- -
19-Nov-03	4.7	0.4	0.3	460	465	627.11	- -
16-Jun-04	2.8	130.0	2,100.0	630	2,863	626.28	5.89
10-Aug-04	2.0	1.6	1.3	20	25	625.89	1
12-Jan-05	6.1	90.0	240.0	760	1,096	627.39	0.6
7-Apr-05	9.5	210.0	2,700.0	1,400	4,320	629.21	0.05
27-Jul-05	2.2	0.2	0.2	2	4	625.60	0.8
27-Oct-05	62.0	710.0	16,000.0	3,600	20,372	627.42	1.58
28-Feb-06	7.5	4.9	0.3	870	883	627.16	1.86

Total BTEX Concentrations vs. Water Levels for MW-19



Total BTEX Concentrations vs. Water Levels for MW-19-5



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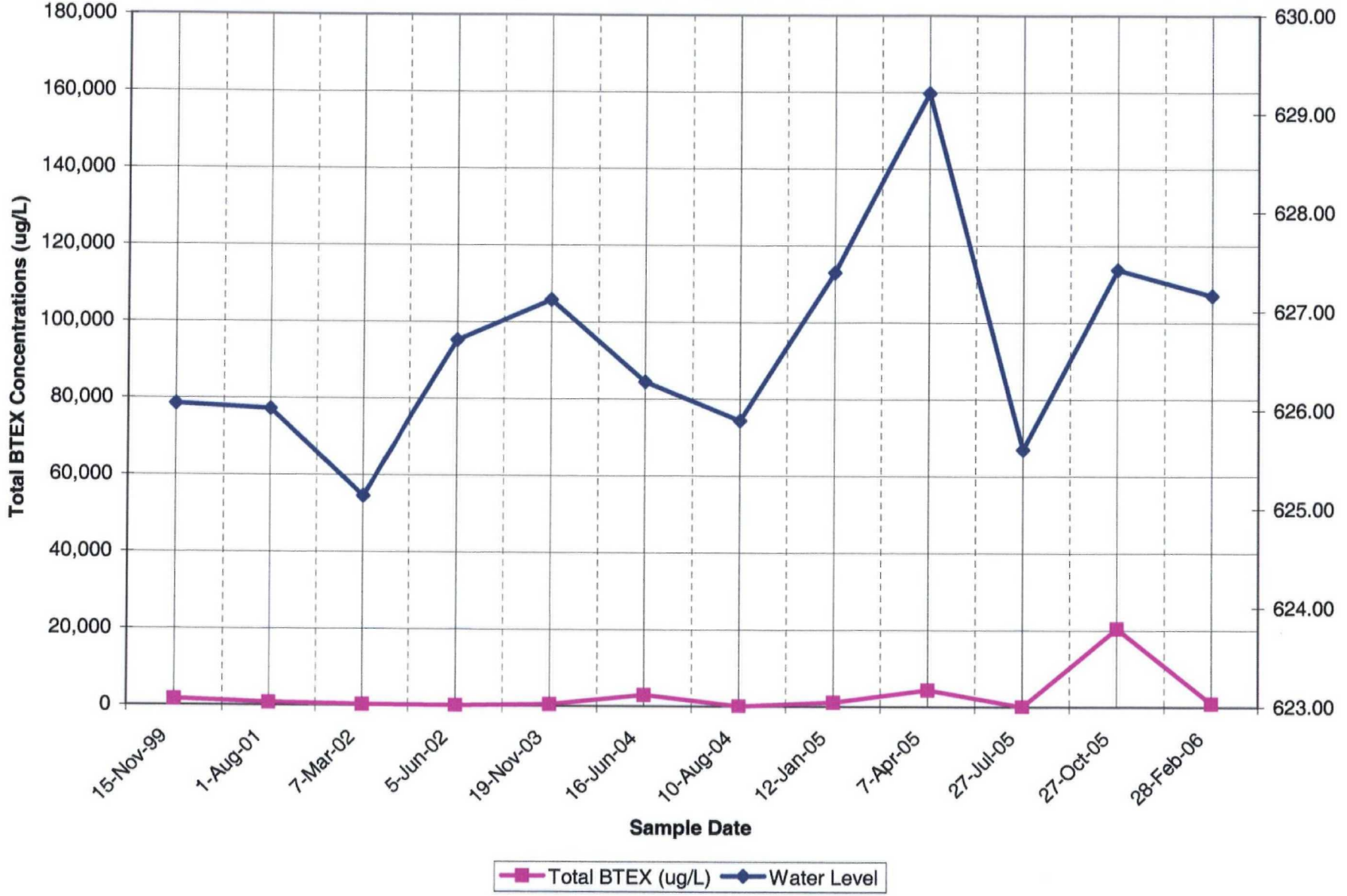
Total BTEX Concentrations vs. Water Levels for MW-19-7



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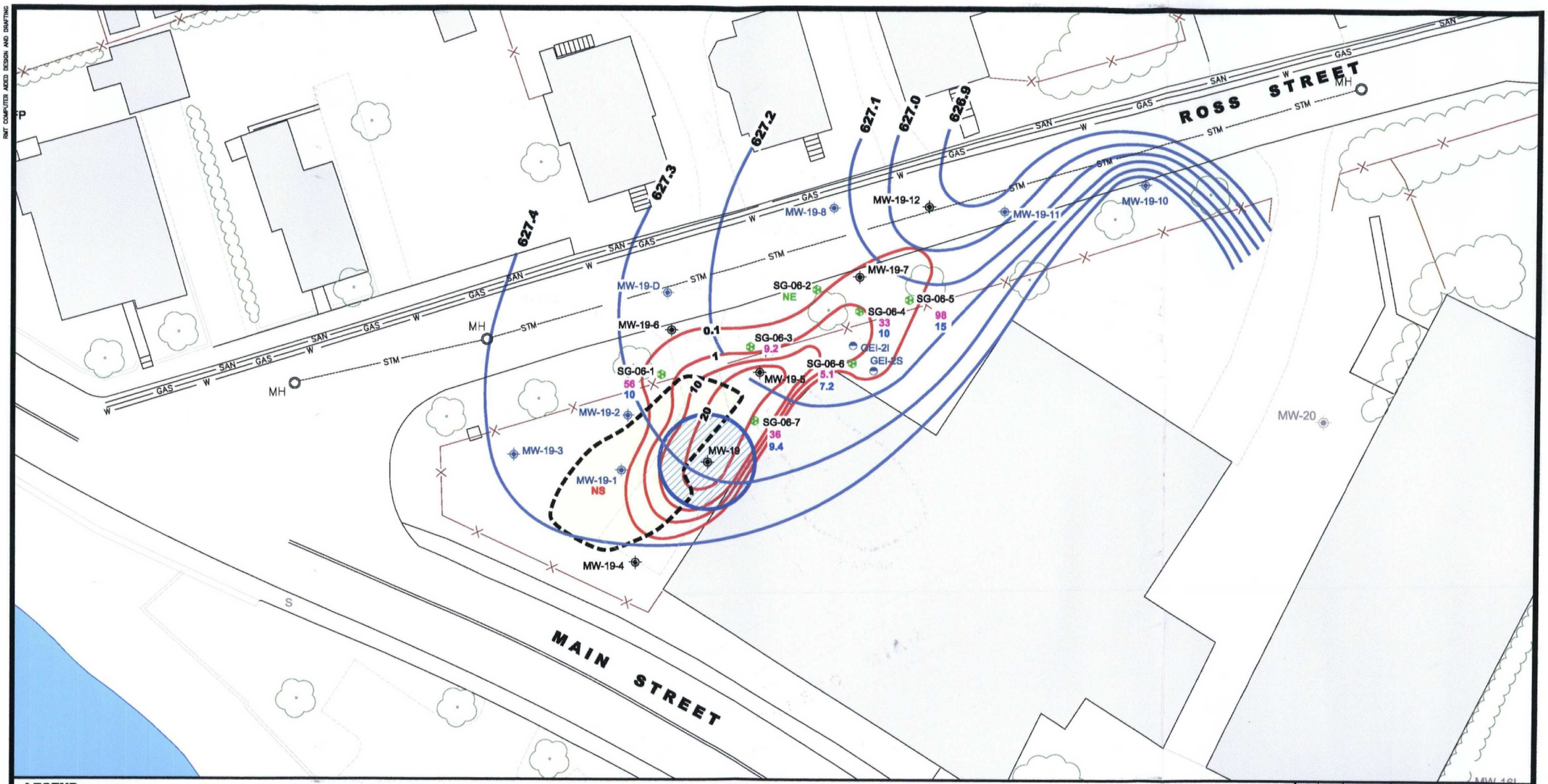
RMT COMPUTER AIDED DESIGN AND DRAFTING



LEGEND

- MW-20 — ABANDONED MONITORING WELL LOCATION AND NUMBER
- MW-19-7 / 2.86 — QUARTERLY MONITORING WELL LOCATION AND NUMBER WITH CONCENTRATION OF TOTAL BTEX (mg/L)
- GEI-2I — QUARTERLY STATIC WATER LEVEL MONITORING LOCATION
- FENCE LINE
- SG-06-1 / 56 / 10 — SOIL GAS SAMPLE LOCATION AND NUMBER WITH CONCENTRATION OF 1,3 - BUTADIENE AND BENZENE (ppmv)
- 1994 SOIL EXCAVATION
- GAS — GAS
- STM — REGIONAL STORM SEWER LINE
- W — WATER
- SAN — SANITARY SEWER
- MH — MANHOLE
- 30-FOOT DISTANCE CRITERION AS REFERENCED IN SECTION 3.1 OF THE NJDEP VAPOR INTRUSION GUIDANCE, OCT 2005
- 10 — ISOCONCENTRATION CONTOUR FOR TOTAL MAXIMUM BTEX (ppm) IN GROUNDWATER
- NE — NO EXCEEDENCES

NOTES

1. BASE MAP DEVELOPED FROM TOPOGRAPHIC SURVEY PROVIDED BY JAMES M. STEWART, INC. LAND SURVEYORS, DRAWING NO 2793-03.DWG, DATED 02-14-02.
2. GROUNDWATER ELEVATIONS BASED ON LEVELS MEASURED ON FEBRUARY 27, 2006.
3. NS = NOT SAMPLED.
4. OVERHEAD POWER LINES ROUGHLY PARALLEL TO SANITARY SEWER, GAS AND WATER LINES.

N

0 15' 30' 45' 60'
SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D.
5.				
4.				
3.				
2.				
1.				

LE CARPENTER
WHARTON, NEW JERSEY

SOIL GAS SAMPLING LOCATIONS AND EXCEENDENCES OF THE GENERERIC VAPOR INTRUSION SCREENING LEVELS

DRAWN BY:	SL	SCALE:	PROJECT NO. 6527.21
CHECKED BY:	JO	SHOWN	FILE NO.6527.21.03.DWG
APPROVED BY:	NC	DATE PRINTED:	**FIGURE 1**
DATE:	APRIL 2006		

RMT INC.
3754 Ranchero Drive
Ann Arbor, MI 48108-2771
PHONE: 313-971-7080
FAX: 313-971-9022